

**CLAIMS**

What is claimed is:

1. A method of measuring surfactant penetration into a filter of an air filter assembly for an intake system, the method comprising:

providing a surfactant;  
adding illuminable material to the surfactant;  
providing a filter having at least one foam layer;  
applying the surfactant containing the illuminable material to the foam layer;  
illuminating the illuminable material in the surfactant after being applied to the foam layer;  
examining the foam layer while being illuminated; and  
determining the depth of surfactant penetration based on an illuminated area of the foam layer.

2. The method of claim 1, further comprising the step of weighing the foam layer before applying the oil surfactant containing illuminable material.

3. The method of claim 1, further comprising the step of weighing the foam layer after applying the oil surfactant containing the illuminable material.

4. The method of claim 1, wherein the step of adding the illuminable material adds a florescent dye.

5. The method of claim 1, wherein the step of adding illuminable material adds dye at the rate of at least about 0.1 grams per quart of surfactant.

6. The method of claim 1, further comprising the step of severing the foam layer into a predetermined size.

7. The method of claim 1, further comprising the step of perforating the foam layer to form perforations therein.

8. The method of claim 7, further comprising the step of severing the foam layer along perforations formed in the perforating step.

9. The method of claim 8, wherein the examining step examines the foam layer at the location at which the foam layer was severed in the severing step and wherein the determining step is based on the illuminated area at a location where the foam layer was severed.

10. The method of claim 1 further comprising the step of dispersing the surfactant containing the dye in the foam layer.

11. The method of claim 1 wherein the foam layer defines a thickness thereof and the determining step is based on the illuminated area of thickness of the foam layer.